PERMIT TO OPERATE AN INSTALLATION
Pollution Prevention and Control Act 1999
Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended)
Local Authority Pollution Prevention and Control

Authorisation Application Received 1st April 2005
Stage 2 Permit Start Date 1st January 2010
Permit Reference PPC 8-2

Name and Address of Operator.
Langney Service Station, Langney Rise, Eastbourne East Sussex

Address of Permitted Installation: Langney Service Station, Langney Rise, Eastbourne East Sussex The process boundary and the location of the vent pipes are marked on the attached plan reference **A9.**

Description of Permitted Installation:
Langney Service Station, Langney Rise, Eastbourne East Sussex is hereby permitted to operate an installation for the unloading of petrol into stationary storage tanks and filling of vehicle petrol tanks at the service station above subject to compliance with the following conditions which shall apply from 10/01/2010. The service station has 6 storage tanks and 16 nozzles dispensing petrol.

Conditions.

Where reference is made in the following conditions to specific sections of the Process Guidance note **PG1/14 (06),** applicable to this installation, these relevant sections have been reproduced at the end of this Permit for ease of referral.

1. Vapours displaced by the delivery of petrol into storage installations at service stations shall be returned through a vapour tight connection line to the mobile container delivering the petrol. Unloading operations may not take place unless the arrangements are in place and properly functioning, subject to ***Conditions 3, 4 and 5.***

2. The operator shall implement the schedule of preventative maintenance provided as part of the application for permission dated 2/12/2009 submitted by Kevin Neary Associates on behalf of ROC UK Limited

3. All reasonably practicable steps shall be taken to prevent uncontrolled leaks of vapour from vents, pipes and connectors from occurring. The local regulatory authority shall be advised without delay of the circumstances of such a vapour leak if there is likely to be an effect on the local community, and in all cases such a vapour leak should be recorded as required under ***Condition 33.*** In this Condition and in ***Condition 4*** a vapour leak means any leak of vapour excepting those which occur through the vent mentioned in ***Condition 11*** during potentially hazardous pressurisation.

4. The operator shall advise the local regulatory authority of the corrective measures to be taken and the timescales over which they will be implemented in the event of a vapour leak as described in ***Condition 3.***

5. Instances of vapour lock **[As defined in section 8 of PG1/14(06).]** shall be recorded on site and, under the circumstances detailed in ***Condition 3***, be advised to the local regulatory authority.

6. The procedures in ***Conditions 2 to 5*** inclusive and conditions ***24 to 26*** inclusive shall be reviewed in light of any modifications which occur to the facilities. The regulator shall be advised of any proposed alteration in operating procedures.

7. The vapour collection systems shall be of a size and design, as approved by the regulator, to minimise vapour emission during the maximum petrol and vapour flow in accordance with ***conditions 1 and 8*** (i.e when most tank compartments are being simultaneously discharged).

8. The number of tanker compartments being discharged simultaneously shall not exceed 2, excluding the diesel compartment.

9. The connection points on the tank filling pipes and vapour return pipe shall be fitted with secure seals to reduce vapour leaks when not in active use. If apertures are provided on storage tanks for the use of a dipstick, these shall be securely sealed when not in active use.

10. The fittings for delivery and vapour return pipes shall be different to prevent mis-connection.

11. Petrol storage tank vent pipes shall be fitted with a pressure vacuum relief valve to minimise vapour loss during unloading and storage of petrol. The pressure vacuum relief valve shall be sized and weighted to prevent vapour loss, except when the storage tanks are subject to potentially hazardous pressurisation.

12. When connecting hoses prior to delivery, the vapour return hose shall be connected before any delivery hose. The vapour return hose shall be connected by the road tanker end first, and then at the storage tank end.

13. Adjacent to each vapour return connection point for the storage tank, there shall be a clearly legible and durable notice instructing "Connect vapour return line before off-loading" or similar wording. The sign shall also refer to the maximum number of tanker compartments which may be unloaded simultaneously in accordance with ***condition 8.***

14. If dip testing of storage tanks or road tanker compartments is performed before delivery, the dip openings shall be securely sealed prior to the delivery taking place.

15. Road tanker compartment dip testing shall not be performed whilst the vapour hose is connected **[See paragraph 6.13 of PG1/14(06).]**

16. A competent person shall remain near the tanker and keep a constant watch on hoses and connections during unloading. **[A competent person is one who has received training in accordance with Section 5 of PG1/14(06).]**

17. All road tanker compartment vent and discharge valves shall be closed on completion of the delivery.

18. On completion of unloading the vapour hose shall not be disconnected until the delivery hose has been discharged and disconnected. The delivery hose shall be disconnected at the road tanker end first. The vapour return hose shall be disconnected at the storage tank end first.

19. All connection points shall be securely sealed after delivery.

20. If the storage tanks or road tanker compartments are dipped after delivery, the dip openings shall be securely sealed after dip testing.

21. Manhole entry points to storage tanks shall be kept securely sealed except when maintenance and testing are being carried out which require entry to the tank.

22. Petrol delivery and vapour return lines shall be tested in accordance with the schedule provided as part of the application for authorisation dated, 15th Jan 2006

23. Pressure vacuum relief valves on petrol storage tank vents shall be checked for correct functioning, including extraneous matter, seating and corrosion at least once every three years.

24. Vapours displaced by the filling of petrol into vehicle petrol tanks at service stations shall be recovered through the use of a stage II Vapour Recovery System**.** Filling of vehicle petrol tanks shall not take place unless such a system is in place and fully functioning.

25. The vapour recovery system referred to in ***condition 24*** shall be certified by the manufacturer to have a hydrocarbon capture efficiency of not less than 85% [see **paragraph 5.16 and Section 8 of PG1/14(06)].** Equipment used shall be approved for use under the regulatory regimes of at least one European Union or European Free Trade Association country.

26. The vapour recovery equipment referred to in ***Condition 24*** shall be designed, installed and tested in accordance with the relevant British, European and international standards or national methods in place at the time that the equipment was installed.

27. Petrol delivery and vapour recovery systems for vehicle petrol tanks shall be tested in accordance with the manufacturer's specifications prior to commissioning and for:

- Vapour containment integrity at least once every three years, and always following substantial changes or significant events that lead to the removal or replacement of any of the components required to ensure the integrity of the containment system.

- Effectiveness of the vapour recovery system at least once every three years where an automatic monitoring system is in place.

[a. This shall be undertaken by measuring the ratio of the volume of vapour recovered to liquid petrol dispensed i.e. vapour/petrol (V/P) ratio. The V/P ratio shall be at least 95% and, where the vapours are recovered into the fuel storage tank, not greater than 105% to avoid excessive pressure build up and consequent release through the pressure relief valves. The V/P ratio shall be determined by simulating the dispensing of petrol using measuring equipment approved for use in any European Union or European Free Trade Association country. The method to be used shall involve measuring the volume of air recovered with fuel flow simulated at the dispenser and read electronically using the approved measuring equipment. This provides the ratio of air recovered to liquid dispensed (air/liquid ratio) which should then be corrected to provide the V/P ratio using an appropriate factor to account for the difference in viscosity between petrol vapour and air ('k-factor').]

28. An automatic monitoring system shall be in place which will:

- Automatically detect faults in the proper functioning of the petrol vapour recovery system including the automatic monitoring system itself and indicate faults to the operator. A fault shall be deemed to be present where continuous monitoring during filling of vehicle petrol tanks indicates that the V/P ratio (condition 28) averaged over the duration of filling has fallen below 85% or has exceeded 115% for ten consecutive filling operations. This only applies to filling operations of at least 20 seconds duration and where the rate of petrol dispensed reaches at least 25 litres per minute.

- Automatically cut off the flow of fuel on the faulty delivery system if the fault is not rectified within 1 week.

- Be approved for use under the regulatory regime of at least one European Union or European Free Trade Association country.

29. Deleted due to automated management system.

30. Operators shall be notified without delay if the results from any monitoring or tests mentioned in ***Conditions 27, 28 or 29*** identifies adverse results, vapour recovery equipment failure or leaks if there is likely to be an effect on the local community, The operator should advise the regulator of the corrective measures to be taken and the timescales over which they will be implemented.

31. Effective preventative maintenance shall be employed on all aspects of the installation including all plant, buildings and the equipment concerned with the control of emissions to air. Preventative maintenance for all vapour recovery systems shall be carried out in accordance with the manufacturer's instructions.

32. Spares and consumables needed shall be held on site, or should be available at short notice from guaranteed suppliers, so that plant breakdowns can be rectified rapidly.

33. The operator shall retain at the premises:
    - details of all maintenance, examination and testing, inventory checking, installation and repair work carried out

- details of training given to operating staff at the service station and any suspected vapour leak together with action taken to deal with any leak, in accordance with ***Conditions 3, 4 and 5.***

- details of all maintenance; examination and testing; installation and repair work carried out on equipment for recovery of vapours during filling of vehicle petrol tanks.

- the certificate referred to in ***Condition 25*** and the results of testing undertaken in accordance with ***Condition 27.***

34. Venting of the petrol vapour shall be through the vent pipes marked on the attached plan reference **A9. [See paragraph 6.7 of PG1/14(06)].**

Authorised Officer…… Date……

Eastbourne Borough Council
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BN21 4TW

EXPLANATORY NOTE

You should note that Section 3 (1) of the PPC Regulations "best available techniques" means the most effective, and advance stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition –

(a) "available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator;

(b) "best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

(c) "techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Please see accompanying reference notes.
PG1/14 (06) Sections: 5, 6 and 8.

Stage I Controls

5.1 The Petrol Vapour Recovery (Stage 1) (Local Enforcing Authorities) Direction and Notice 1996 directs Regulators, and In Scotland the Petrol Vapour Recovery (Stage 1) (Scottish Environment Protection Agency) Direction and Notice 1996 directs SEPA, to include conditions in any authorisations granted to service station operators to secure that equipment is designed and operated in accordance with paragraph 5.3. The Directions allows no alternative technical measures to those in paragraph 5.3. However, the Directive gives discretion to Member States to adopt different measures if they are demonstrated to have at least the same efficiency. Any such alternative measures would need to be approved by the Department for Environment, Food and Rural Affairs, Welsh Assembly Government or Scottish Executive (as appropriate), who would need to issue a further Direction. Operators or Regulators authorities must, therefore, seek and obtain such a Direction from the Department for Environment, Food and Rural Affairs, Welsh Assembly Government or Scottish Executive (as appropriate) before deviating from paragraph 5.3.

5.2 The provisions of paragraph 5.3 are designed to reduce the total annual loss of petrol resulting from unloading into storage installations in service stations to below a target reference value (see Section 8) of 0.01% by weight of the throughput.

5.3 Vapours displaced by the delivery of petrol into storage installations at service stations must be returned through a vapour tight connection line to the road tanker delivering the petrol. Unloading operations may not take place unless the arrangements are in place and properly functioning, subject to paragraph 6.6.

5.4 The vapour tight connection line should be taken to include the hoses and connectors used to return vapour to the road tanker, but not the vent mentioned in paragraph 6.6.

5.5 Petrol delivery and vapour return lines should be tested prior to operation and periodically for vapour containment integrity.

5.6 Pressure vacuum relief valves or other similar devices on fixed tank vents should be checked for correct functioning, including checking for extraneous matter, correct seating and the presence of corrosion at least once every three years.

5.7 The operators should maintain a log book at the permitted installation incorporating details of all maintenance (see paragraph 6.39), examination and testing, inventory checking, installation and repair work carried out, along with details of training given to operating staff at the service station. The register required to be kept by the Petroleum Licensing Authority should suffice for this purpose.

5.8 A competent person should remain near the tanker during unloading. A competent person is one who has received training for deliveries in accordance with paragraphs 6.13-6.21, 6.36 and 6.38.
Delivery drivers may be trained as the competent person. Specific responsibilities of the site operator and the tanker driver are set out in the Approved Code of Practice and Guidance on Unloading Petrol from Road Tankers (L133), including responsibilities for preventing a fire through preventing the overfilling of the storage tank; controlling sources of ignition during unloading and dealing with any spillages that may occur during the unloading of a petrol tanker; and preventing falls from petrol tankers.

5.9 The log book should also detail any suspected vapour leaks together with action taken to deal with any leak, in accordance with paragraphs 5.10 and 5.11.

5.10 All reasonably practicable steps should be taken to prevent uncontrolled leaks (meaning any leak excepting those which occur through the vent mentioned in paragraph 6.6 during potentially hazardous pressurisation) of vapour from vents, pipes and connectors from occurring.

5.11 The regulator should be advised without delay of the circumstances of such a vapour leak if there is likely to be an effect on the local community, and in all cases such a vapour leak should be recorded in the log book required under paragraph 5.7. The operator should advise the regulator of the corrective measures to be taken and the timescales over which they will be implemented. Acceptable time scales are likely to depend on the nature of work to be undertaken, for instance a sticking pressure vacuum relief valve is likely to be quicker to rectify than a damaged vapour connector.

5.12 Instances of vapour lock should also be recorded in the log book and, where appropriate, the regulator should be informed. If this is a persistent occurrence the operator should advise the regulator of the corrective measures proposed and the time scales over which they will be implemented.

Stage II Controls

5.13 Filling of vehicle petrol tanks at service stations with a throughput of more than 3500m3 of petrol per year for existing service stations or 500m3 of petrol per year for new service stations is a prescribed activity under SI 2006, No. 2311. Regulators should include conditions in permits granted to operators of such service stations to ensure that equipment is designed and operated in accordance with paragraph 5.15.

5.14 The provisions of paragraph 5.15 are designed to ensure recovery of at least 85% of the displaced petrol vapours resulting from filling of vehicle petrol tanks in service stations.

5.15 Vapours displaced by the filling of petrol into vehicle petrol tanks at service stations should be recovered through a vapour recovery system to a storage installation, which should include the service station’s underground storage tank or other appropriate vessel. Filling of vehicle petrol tanks should not take place unless such a vapour recovery system is in place and fully functioning.

5.16 The vapour recovery system referred to in paragraph 5.15 should be approved for use under the regulatory regime of at least one European Union or European Free Trade Association country (“type approval”). A certificate to confirm such compliance should be retained at the petrol station with the log book. The vapour recovery system should be certified by the manufacturer to have a hydrocarbon capture efficiency of not less than 85% (as defined in Section 8), determined through the aforementioned type approval test.

5.17 All vapour recovery equipment used should be designed, installed and tested in accordance with the relevant British, European and international standards or national methods in place at the time that the equipment was installed. Standards are being

developed in several member states (for example in Germany VDI 4205 and Merkblatt 1) and, at the time of drafting this note, it is understood that standards for testing specific to the United Kingdom will be developed in the near future.

5.18 Petrol delivery and vapour recovery systems for vehicle petrol tanks should be tested in accordance with the manufacturer's specifications prior to commissioning and for:

• Vapour containment integrity at least once every three years, and always following substantial changes or significant events that lead to the removal or replacement of any of the components required to ensure the integrity of the containment system

• Effectiveness of the vapour recovery system at least once every three years. For open active systems (paragraphs 6.24 to 6.26), this should be undertaken by measuring the ratio of the volume of vapour recovered to liquid petrol dispensed i.e. vapour/petrol ratio (V/P). The V/P ratio should be at least 95% and, where the vapours are recovered into the fuel storage tank, not greater than 105% to avoid excessive pressure build up and consequent release through the pressure relief valves. The V/P ratio should be determined by simulating the dispensing of petrol using measuring equipment approved for use in any European Union for European Free Trade Association country. The method to be used should involve measuring the volume of air recovered with fuel flow simulated at the dispenser and read electronically using the approved measuring equipment. This provides the ratio of air recovered to liquid dispensed (air/liquid ratio) which should then be corrected to provide the V/P ratio using an appropriate factor to account for the difference in viscosity between petrol
vapour and air (‘k-factor’).

• For other systems, the effectiveness of the vapour recovery system should be tested for effectiveness in accordance with the manufacturer’s specification with details of this testing retained with the service station log book.

5.19 Operators should install an automatic monitoring system (see paragraph 5.20) or ensure a greater frequency of other regular testing (see paragraph 5.21).

5.20 An automatic monitoring system according to paragraph 5.19 should: automatically detect faults in the proper functioning of the petrol vapour recovery system including the automatic monitoring system itself and indicate faults to the operator. A fault should be deemed to be present where continuous monitoring during filling of vehicle petrol tanks indicates that the V/P ratio averaged over the duration of filling has fallen below 85% or has exceeded 115% for ten consecutive filling operations. This only applies to filling operations of at least 20 seconds duration and where the rate of petrol dispensed reaches at least 25 litres per minute. Automatically cut off the flow of fuel on the faulty delivery system if the fault is not rectified within 1 week. Be approved for use under the regulatory regime of at least one European Union or European Free Trade Association country.

5.21 Table 2: Frequency of Monitoring for Different Vapour Recovery Systems

Type of System : Active system with automatic monitoring

Tests Required (post-commissioning) : Vapour containment integrity = 3 years
Vapour recovery effectiveness (V/P ratio) = 3 years (according to manufacturer’s specification)

5.22 Operators should record in a log book details of all maintenance, examination and testing, installation and repair work carried out for Stage II controls. Details of training (5.24) given to operating staff at the service station should also be recorded. Operators should maintain the log book at the permitted installation.

5.23 Operators should also undertake a weekly check to verify functionality of the vapour recovery system where an automatic monitoring system is not employed. Such checks should include:

- A test of functionality of the vapour recovery system using appropriate equipment;
- An inspection for torn, flattened or kinked hoses and damaged seals on vapour return lines;
- An entry of the checks and findings in the station log book (see paragraph 5.22)

5.24 Where weekly functionality checks are required, operators should ensure that all relevant staff is trained to perform the checks in accordance with the manufacturers instructions. In all cases, relevant staff should be trained in the use of preventative maintenance for vapour recovery systems to the manufacturers instructions.

5.25 Adverse results from any monitoring activity (both continuous and non-continuous) should be investigated by the operator as soon as the monitoring data has been obtained/received. The operator should:

- identify the cause and take corrective action
- record as much detail as possible regarding the cause and extent of the problem, and the action taken by the operator to rectify the situation
- re-test to demonstrate compliance as soon as possible; and
- notify the regulator

6: Control techniques

Stage I Controls

6.1 Vapour collection systems should be sized and designed to minimise vapour emission occurring during the maximum petrol and vapour flow in accordance with paragraphs 5.1 - 5.3 (i.e. when the maximum number of tanker compartments are being simultaneously discharged).

6.2 In the case of existing vapour collection systems, an assessment should be made of the maximum number of tanker compartments which can be discharged whilst still maintaining the integrity of the vapour collection system.

6.3 The design or assessment should not account for diesel if the storage tank is separately vented, but should be included if it utilises the same vent pipe as the petrol storage tanks.

6.4 The connection points on the tank filling pipes and vapour return pipe should be fitted with secure seals to reduce vapour leaks when not in active use. Similarly if apertures are provided on storage tanks for the use of a dipstick, these should also be securely sealed when not in active use.

6.5 The fittings for delivery and vapour return pipes should be different to prevent misconnection.

6.6 Storage tank vent pipes should be fitted with a pressure vacuum relief valve to reduce vapour loss or a similar device which is at least as effective in minimising emissions during unloading. Pressure vacuum relief valves should be sized and weighted to prevent vapour loss and potentially hazardous pressurisation. Storage tank pressurisation outwith unloading periods should be avoided through the use of a 50mm orifice plate. Operators should note that the sizing, siting and safety features associated with fitting pressure vacuum relief valves and orifice plates may be subject to health and safety legislation.

6.7 Vent pipes should normally discharge not less than 3 metres above the ground, nor within 3 metres of any opening windows or ventilation air inlets.

6.8 Where service stations use dip tubes or hydrostatic gauging and are not excluded by paragraph **6.12,** the equipment in paragraph **6.9** may be fitted in order to avoid unsafe working conditions.

6.9 An additional vent rising from the manifold system with a ball stop valve should be installed allowing it to be opened to relieve pressure on the system prior to tank dipping or gauge reading. The valve should be of the dead man's handle type, with a locking device, to prevent its being left open at any other time.

6.10 The valve described in paragraph 6.9 should be checked to ensure that it is closed before any hose is connected, and the valve should not be open during any delivery.

6.11 Emissions from a valve described by paragraph **6.9** should be kept to a minimum. Installations incorporating these arrangements should be pressure tested before being brought into operation.

6.12 Arrangements as described in paragraphs **6.8 - 6.11** are not appropriate under any of the following circumstances :
Petrol stations with any gauging other than hand dipping or hydrostatic gauges not designed to be compatible with Stage 1 equipment; Any new petrol station; or
Any petrol station subject to redevelopment involving work on underground storage tanks or modifications to tank-related pipe work .

6.13 When connecting hoses prior to delivery, the vapour return hose should be connected before the delivery hoses. The vapour return hose should be connected by the road tanker end first, and then at the storage tank end. (The Health and Safety Executive has expressed the view that the procedures in paragraphs 6.13 and 6.18 are recommended for safety as well as environmental reasons). If diesel only is delivered to storage tanks which are not manifolded with petrol tanks then a vapour recovery line is not required.

6.14 Adjacent to each vapour return connection point, there should be a clearly legible and durable notice instructing "Connect vapour return line before off - loading" or similar wording. In the case of direct fill operations where the filling points are underground, the sign may be located nearby above ground provided it is easily visible from the fill points. In addition, either:

(a) the sign should also refer to the maximum number of tanker compartments which may be unloaded simultaneously in accordance with paragraph 6.1, or
(b) a clear statement of the maximum number of tanker compartments which may be unloaded simultaneously in accordance with paragraph 6.1 should be included on the Petroleum Delivery Certificate, whichever is preferred by the operator.

6.15 If dip testing of storage tanks or road tanker compartments is performed before delivery, the dip openings should be securely sealed prior to the delivery taking place.

6.16 Road tanker compartment dip testing should not be performed whilst the vapour hose is connected, except in the case of split compartment deliveries where dip testing is carried out, which can be safely undertaken to the satisfaction of the Petroleum Licensing Authority. Regulators should expect split compartment deliveries where dip testing is carried out to be kept o the minimum. Guidance on split compartment deliveries can be found in the Energy Institute publication “Offloading Procedures for Split Compartment Deliveries of Petrol Between Service Station Sites”.

6.17 All road tanker compartment vent and discharge valves should be closed on completion of the delivery.

6.18 On completion of unloading, the vapour hose should not be disconnected until the delivery hoses have been discharged and disconnected. The delivery hoses should be disconnected at the road tanker end first, whilst the vapour return hose should be disconnected at the storage tank end first.

6.19 All connection points should be securely sealed after delivery.

6.20 If the storage tanks or road tanker compartments are dipped after delivery, the dip openings should be securely sealed immediately after dip testing.

6.21 Manhole entry points to storage tanks should be kept securely sealed except when maintenance and testing are being carried out which require entry to the tank.

Stage II Controls.

6.22 Vapour recovery systems for filling of vehicle petrol tanks should be designed to minimise vapour emission occurring during filling of vehicle petrol tanks in accordance with paragraphs 5.13 - 5.17.

6.23 Operators should not be constrained as to the specific techniques to be used in recovery of vapours during filling of vehicle petrol tanks, provided that the requirements of paragraphs 5.13 -5.17 are adhered to. Examples of techniques that can be used are provided below. In all cases, however, appropriate approval of the equipment should be ensured, as described in paragraph

5.16. Open Active Vapour Recovery with Return of Vapours to Underground Storage Tank .

6.24 When petrol enters the vehicle tank, an active vapour recovery system (open active petrol vapour recovery system) uses a vacuum pump to suck a corresponding volume of vapours back into a storage tank.

6.25 Components of an open active petrol vapour recovery system may include:

A vapour recovery nozzle; A hose through which vapours are collected (coaxial or similar) and a pipe through which the vapours are returned (this may be separate from the fuel line or may be inserted into the fuel line); A vacuum pump; A system to control the ratio of the volume of vapour recovered to the volume of petrol dispensed into the vehicle tank; A vapour storage tank (i.e. the petrol storage tank).

6.26 The control of the ratio of the volume can be achieved by

• A proportional valve controlled either hydraulically or electronically; or
• Controlling the speed of the vacuum pump

Active recovery of vapours as petrol at the dispenser

6.27 Alternative vapour recovery systems may be used, in which petrol vapours are recovered at the dispenser and returned direct for re-sale. Such equipment may include:

Standard nozzles and hoses designed for petrol vapour recovery as used where the vapours are returned to the underground storage tank; A vacuum pump which sucks the vapour through the nozzle and hose; A heat exchanger which condenses the petrol vapours and a tank in which water is separated and the recovered petrol stored. The recovered petrol is then passed to the dispenser petrol lines during refilling.

Passive vapour recovery

6.28 ‘Passive’ or ‘balance’ vapour recovery systems do not include a vacuum pump. Instead, the pressure exerted by the displaced petrol vapours is used to drive the vapours back into the storage tank. In such a system, a rubber bellows/boot is required in order to ensure that there is a seal between the vehicle and the nozzle. These systems require greater control on the part of the vehicle owner in ensuring an adequate seal and are generally seen as being more unwieldy than the techniques referred to above.

General Remarks

6.29 The above descriptions do not preclude use of any other equipment, provided that the minimum hydrocarbon capture efficiency requirements (85%) are met (determined under type approval tests in accordance with paragraph 5.16).

6.30 Under no circumstances should the vapour return line be manifolded to any diesel tanks present.

Air quality

6.31 In areas where air quality standards or objectives are being breached or are in serious risk of breach and it is clear from the detailed review and assessment work under Local Air Quality Management that the Part B installation itself is a significant contributor to the problem, it may be necessary to impose tighter emission limits. If the air quality standard that is in danger of being exceeded is not an EC Directive requirement, then industry is not expected to go beyond BAT to meet it. Decisions

should be taken in the context of a local authority's Local Air Quality Management action plan. For example, where a Part B installation is only responsible to a very small extent for an air quality problem, the authority should not unduly penalise the operator of the installation by requiring disproportionate emissions reductions. More guidance on this is provided in paragraph 360 of the Air Quality Strategy which gives the following advice:

“The approach from local authorities to tackling air quality should be an integrated one, involving all strands of local authority activity which impact on air quality and underpinned by a series of principles in which local authorities should aim to secure improvements in the most cost-effective manner, with regard to local environmental needs while avoiding unnecessary regulation. Their approach should seek an appropriate balance between controls on emissions from domestic, industrial and transport sources and draw on a combination and interaction of public, private and voluntary effort.”

6.32 The EU has set a limit value for benzene levels in ambient air of 5mg/m3 as an annual mean to be achieved by 2010 (Council Directive 2000/69/EC of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air).

Air quality objectives for benzene in England are contained in The Air Quality (England) Regulations 2000 SI928 and in the Air Quality Limit Values Regulations 2003 SI 2121 16mg/m3 as a running annual mean to be achieved by 31 December 2003. 5g/m3 as a running annual mean to be achieved by 31 December 2010.

Management

6.33 Important elements for effective control of emissions include:

proper management, supervision and training for operations; proper use of equipment; clear instructions on when equipment should not be used; effective preventative maintenance on all plant and equipment concerned with the control of emissions to the air; and it is good practice to ensure that spares and consumables are available at short notice in order to rectify breakdowns rapidly. This is important with respect to arrestment plant and other necessary environmental controls. It is useful to have an audited list of essential items. Spares and consumables - in particular, those subject to continual wear - should be held on site, or should be available at short notice from guaranteed local suppliers, so that plant breakdowns can be rectified rapidly.

6.34 Effective management is central to environmental performance; it is an important component of BAT and of achieving compliance with permit conditions. It requires a commitment to establishing objectives, setting targets, measuring progress and revising the objectives according to results. This includes managing risks under normal operating conditions and in accidents and emergencies. It is therefore desirable that operators put in place some form of structured environmental management approach, whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an environmental management system (EMS) tailored to the nature and size of the particular installation. Operators may also find that an EMS will help identify business savings.

6.35 Regulators should use their discretion, in consultation with individual operators, in agreeing the level of environmental management appropriate to any particular installation. Simple systems which ensure that LAPPC considerations are taken account of in the day-to-day running of an installation may well suffice, especially for

small and medium-sized enterprises. While authorities may wish to encourage wider adoption of EMS, it is outside the legal scope of an LAPPC permit to require an EMS for purposes other than LAPPC compliance. For further information/advice on EMS refer to EMS Additional Information in Section 8.

6.36 All service station operators must follow the procedures for safe operation for petrol unloading operations laid down in petroleum licence conditions and in the Carriage of Dangerous Goods by Road Regulations 1996, SI 2095. At the time of revising this guidance note, the HSE is consulting on an amendment to those conditions and regulations. This includes a partial substitution by an Approved Code of Practice.

6.37 The procedures in paragraphs 5.10 -5.12, 6.13 - 6.21, 6.34, 6.36 and 6.38 should be reviewed in light of relevant modifications which occur to the facilities.

6.38 Staff at all levels need the necessary training and instruction in their duties relating to control of the installation and emissions to air. In order to minimise risk of emissions, particular emphasis should be given to control procedures during startup, shut down and abnormal conditions.

Training may often sensibly be addressed in the EMS referred to above.

Training of all staff with responsibility for operating the installation should include: awareness of their responsibilities under the permit; in particular supervising and performing unloading operations of tankers, for example action to minimise emissions during abnormal conditions
occurrences which require the equipment to be shut down

The operator should maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment. These documents should be made available to the regulator on request.

6.39 Effective preventative maintenance should be employed on all aspects of the installation including all plant, buildings and the equipment concerned with the control of emissions to air. In particular: A written maintenance programme should be provided to the regulator with respect to pollution control equipment; and A record of such maintenance should be made available for inspection.

8 Definitions and further information

This guidance Process Guidance Note 1/14(06)

Previous guidance Process Guidance Note 1/14(97) and PG 1/14(04)

LAPC explained in the Introduction of this guidance

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Permit the written permission to operate an installation prescribed for LAPPC-(the replacement for authorisations under LAPC)

Local enforcing authority is replaced by the word ‘regulator’ in LAPPC

Regulator replaces the phrase ‘local enforcing authority’ from LAPC

Authorised person under section 108 of the Environment Act 1995, “authorised person” has replaced the term “inspector”

Installation should be interpreted in accordance with the guidance contained in The General Guidance Manual on Policy and Procedures for A2 and B installations. ww.defra.gov.uk/environment/ppc/manual/index.htm

Petrol is defined in Directive 94/63/EC as any petroleum derivative with or Without additives, having a Reid vapour pressure of 27.6kPa or more, which is intended for use as a fuel for motor vehicles, except liquefied petroleum gas (LPG). In addition the Government's view is that the definition of petrol includes leaded, unleaded and lead replacement gasoline and · excludes diesel motor fuel, kerosene and aviation fuels (some aviation fuels exceed the vapour pressure but aircraft are not motor vehicles for the purpose of the definition) The Government’s view is not definitive as it is ultimately the courts that interpret legislation.

Vapours means any gaseous compound which evaporates from petrol.

Mobile container means any tank, transported by road, rail or waterways used for the transfer of petrol from one terminal to another or from a terminal to a service station.

Service station means any installation where petrol is dispensed to motor vehicle l Fuel tanks from stationary storage tanks. This includes both retail And non-retail sites.

Existing means service stations which are in operation, or for the construction Of which planning permission is granted, before 31st December 1995. for Stage II controls existing means service stations which are in operation before the date of publication of this note.

New means service stations which are not covered by the definitions of “existing” stations.

It is the Government's general view that the main circumstances where

the "new installation" requirements would be triggered at an existing Service station would be where modifications were proposed to the tankerage, tank vents, or tanker connection points and where these Modifications required planning permission.

The Government are of the opinion that the grant of outline planning Permission for the construction of a service station prior to 31 Dec 1995 would bring that station into the definition of "existing", though it should be noted that such permissions are time limited under section 92 of the Town and Country Planning Act 1990. The Government do not consider that the subsequent approval of reserved matters affects this position.

The Government's general view and opinion are not definitive as it is ultimately the courts that interpret legislation.

Throughput means the largest total annual quantity of petrol unloaded from mobile containers into a service station during the three years preceding the relevant date. This means that the compliance deadline will apply if the throughput figure is exceeded in any of the three immediately preceding years, which will always include the most recent year. For example, if the throughput exceeds 500m3 at a service station for the first time in 2005 then that service station should be regarded as having "a throughput greater than 500m3 " in the year 2006.

Target reference value means the guideline given for the overall assessment of the adequacy of technical measures in the note and is not a limit value against which the performance of individual installations at service stations would be measured.

Vapour collection system includes a system of delivery of petrol whereby the vapours displaced from the storage tank are returned to the road tanker by a vapour balance pipe.

Hydrocarbon capture efficiency of vapour recovery system

Equipment for vapour recovery should be designed to ensure a vapour recovery efficiency of 85% measured during an appropriate type approval test. The efficiency is defined as:

Eff (%) = ((BE - RE) / BE) x 100

(where Eff is efficiency; BE is base emissions of petrol vapours to atmosphere without Stage II petrol vapour recovery in place; RE is the residual emissions of petrol vapours to atmosphere with Stage II measures in place).

For vapour recovery systems with type approval from another European Union, European Economic Area or European Free Trade Association country, the hydrocarbon capture efficiency required by that country should be taken as being equivalent to the above.

Type approval test A test undertaken to gain approval for use. In the context of this note, this term is used in relation to approval for use of a vapour recovery system in petrol dispensers for compliance with national regulations. The test will typically include leakage tests and metrology tests as well as tests on hydrocarbon capture efficiency and volumetric efficiency (P/V ratio).

Vapour/Petrol (V/P) ratio The ratio between the vapour volume at atmospheric pressure passing through the vapour recovery system and the volume of petrol dispensed.

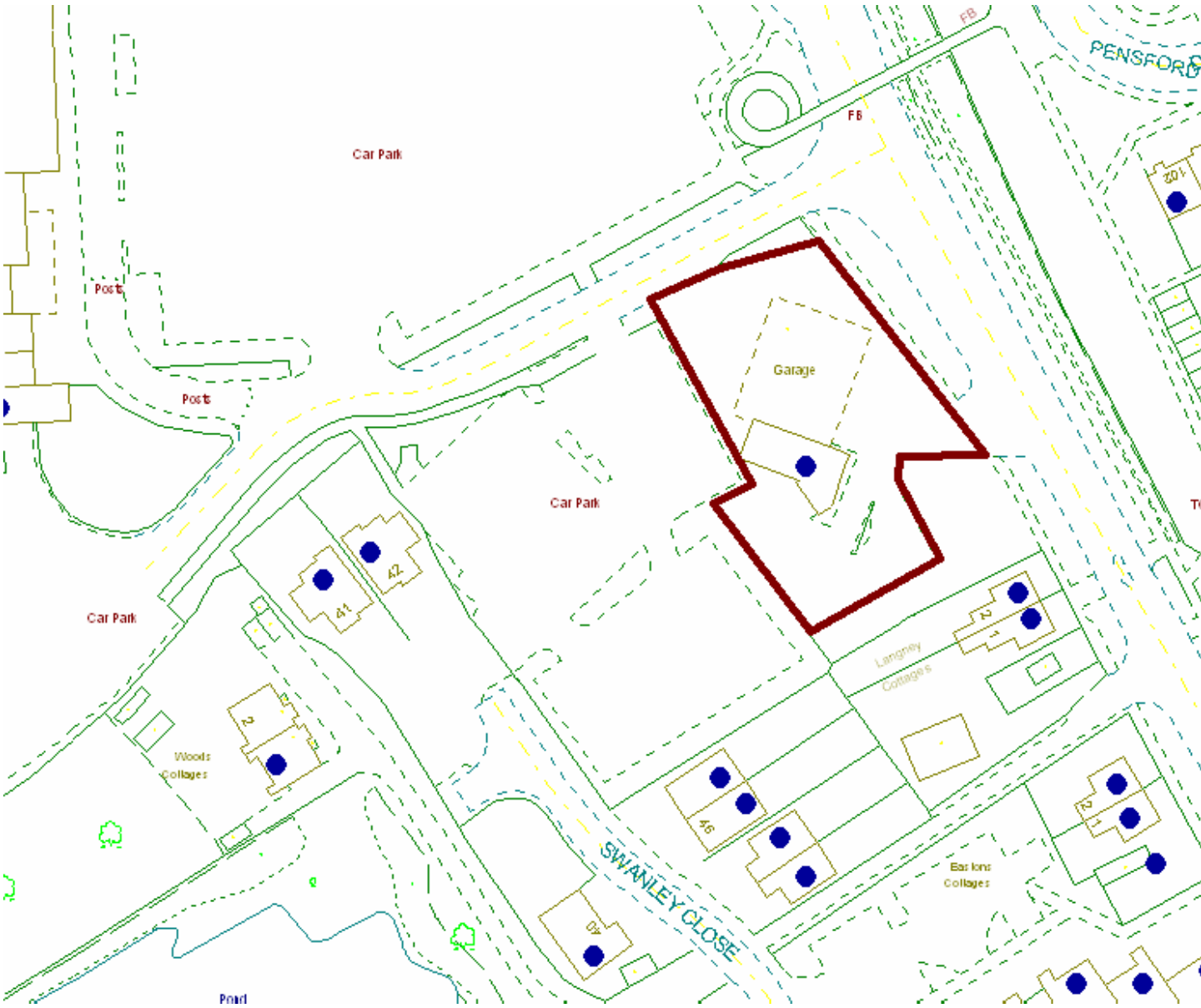
Exempt service station exempt service station means a service station - at which the total quantity of petrol unloaded into stationary storage tanks does not exceed 500m3 in any 12-month

Additionally, in relation to provisions for Stage II controls only, exempt service station means an existing service station where the throughput of petrol does not exceed 3500m3 in any 12-month period.

Vapour lock is a phenomenon that can occur during a road tanker delivery and is identified by a stoppage in the flow of product before the road tanker's compartment is fully discharged. There are two possible causes of vapour lock:

i) Where there is an insufficient head of product in the road tanker compartment to force the air/vapour mixture in the delivery hose and fill pipe through the residual product in the storage tank. This cause of vapour lock can affect both atmospheric (free venting) and vapour balanced deliveries.

ii) Where there is a back flow of vapour into the delivery hose from a leak in the storage tank's internal fill pipe. This cause will only arise during vapour balanced deliveries.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